Listing of the Claims

The following listing of claims will replace all prior versions and listings of the claims in the application:

1. (Original) A method for cleaning a processing chamber comprising:

heating an inner surface of the processing chamber to a first temperature, the first temperature being sufficient to cause a first species to become volatile, the first species being one of a plurality of species deposited on the inner surface;

injecting a cleaning chemistry into the processing chamber, the cleaning chemistry being reactive with a second one of the plurality of species to convert the second species to the first species; and

outputting the volatilized first species from the processing chamber.

2. (Original) The method of claim 1, wherein the processing chamber includes a substrate to be processed.

3. (Original) The method of claim 2, further comprising etching a surface of the substrate at substantially the same time as the processing chamber is being cleaned.

4. (Original) The method of claim 3, wherein etching the surface of the substrate includes etching a multi layered thin film stack on the substrate in a single chamber.

5. (Original) The method of claim 2, further comprising heating the substrate.

6. (Original) The method of claim 2, wherein the substrate is supported by a chuck.

7. (Original) The method of claim 6, wherein the chuck is heated.

8. (Original) The method of claim 2, further comprising heating the substrate to substantially the first temperature.

9. (Original) The method of claim 2, further comprising applying a bias voltage to the substrate.

10. (Original) The method of claim 1, wherein outputting the volatilized first species from the processing chamber includes condensing at least a portion of the volatilized first species on a second surface that has a temperature less than the first temperature.

11. (Original) The method of claim 1, wherein injecting the cleaning chemistry into the processing chamber includes reducing the second one of the plurality of specie.

12. (Original) The method of claim 1, wherein the first species is at least one of a metal and halogen compound and a metal and oxygen compound, and wherein the second species is at least one of a non-volatile metal and a metal containing compound.

13. (Original) The method of claim 12, wherein the metal includes at least one of a group consisting of copper, tantalum, tungsten, platinum, iridium, ruthenium, hafnium, zirconium and aluminum.

14. (Original) The method of claim 1, wherein the inner surfaces are heated to a range of about 200 to about 400 degrees C.

15. (Original) The method of claim 1, wherein the inner surfaces are heated by a plasma formed within the processing chamber.

16. (Original) The method of claim 1, wherein the cleaning chemistry includes at least one of a group consisting of a halogen gas, an inert gas and a hydrogen-containing gas.

17. (Canceled)
18. (Canceled)
19. (Canceled)
20. (Canceled)
21. (Canceled)

22. (Canceled)